



FEDERAL COMMUNICATIONS COMMISSION

47 CFR Part 54

[GN Docket No. 20-32; FCC 23-74; FR ID 175020]

Establishing a 5G Fund for Rural America

AGENCY: Federal Communications Commission.

ACTION: Proposed rule.

SUMMARY: In this document, the Federal Communications Commission (Commission or FCC) makes proposals and seeks comment on a limited set of issues to refresh the record and continue its implementation of the 5G Fund for Rural America.

DATES: Comments are due on or before October 23, 2023; reply comments are due on or before November 21, 2023.

ADDRESSES: Pursuant to §§ 1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. All comments must be filed in GN Docket No. 20-32. Comments may be filed using the Commission's Electronic Comment Filing System (ECFS). *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998). You may submit comments, identified by GN Docket No. 20-32, by any of the following methods:

- *Electronic Filers:* Comments may be filed electronically using the Internet by accessing the ECFS: <https://www.fcc.gov/ecfs/>.
- *Paper Filers:* Parties who choose to file by paper must file an original and one copy of each filing. Filings can be sent by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- Commercial Overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9050 Junction Dr., Annapolis Junction, Annapolis MD 20701.
- U.S. Postal Service first-class, Express, and Priority mail must be addressed to 45 L Street, NE, Washington, DC 20554.
- Effective March 19, 2020, and until further notice, the Commission no longer accepts any hand or messenger delivered filings. This is a temporary measure taken to help protect the health and safety of individuals, and to mitigate the transmission of COVID-19.
- *People with Disabilities:* To request materials in accessible formats for people with disabilities (braille, large print, electronic files, audio format) send an email to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at (202) 418-0530 (voice), (202) 418-0432 (TTY).

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SUPPLEMENTARY INFORMATION: This is a summary of the Commission's Further Notice of Proposed Rulemaking (FNPRM) in GN Docket No. 20-32, FCC 23-74, adopted on September 21, 2023 and released on September 22, 2023. The full text of this document is available for public inspection at the following internet address: <https://www.fcc.gov/document/fcc-seeks-further-comment-5g-fund-rural-america>.

Synopsis

I. Introduction

1. Armed with the new, granular, and improved mobile coverage data obtained in the Broadband Data Collection (BDC) and reflected on its new National Broadband Map, the Commission continues the implementation of the 5G Fund for Rural America (5G Fund) and advance its efforts to ensure the deployment of high-speed, 5G mobile service in areas of the country where, absent subsidies, it

will continue to be lacking. The Commission undertakes this effort in recognition that those living, working, and travelling in unserved areas must have access to high-speed, 5G mobile service. The need for high-speed mobile services has never been more critical, yet there are many areas of its country that continue to lack access to 5G service. In fact, some areas continue to lack access to any mobile broadband service at all. Moreover, moving forward with the 5G Fund will allow the Commission to proceed with its plan to transition from mobile legacy high-cost support, which continues to be distributed inefficiently.

2. Accordingly, with this narrowly tailored Further Notice of Proposed Rulemaking (FNPRM), the Commission seeks to refresh the record and reignite the Commission's plan to expand the deployment of 5G service to those rural communities that remain trapped on the wrong side of the digital divide. To that end, the Commission seeks comment on a limited set of issues that are critical to the 5G Fund's success, namely: (1) defining the areas that will be eligible for 5G Fund support; (2) reassessing the budget for the 5G Fund; (3) potentially reconsidering the use of adjusted square kilometers as the metric for accepting bids and identifying winning bids in a 5G Fund auction; (4) aggregating areas eligible for 5G Fund support to minimum geographic areas for bidding; (5) measuring a 5G Fund support recipient's compliance with its public interest obligations and performance requirements based on any modified metric for accepting bids and identifying winning bids; (6) modifying the schedule for transitioning from mobile legacy high-cost support to 5G Fund support consistent with recent legislative amendments; (7) a proposal to require each 5G Fund Phase I auction applicant to certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements related to the support made available for bidding in the auction; (8) whether to require 5G Fund support recipients to implement cybersecurity and supply chain risk management plans; and (9) determining whether and how this proceeding might create an opportunity to support further deployment of Open Radio Access Network (Open RAN) technologies.

3. The entire country benefits when everyone, including those living and working in rural areas, can communicate and innovate equally through access to high-speed, mobile broadband services. Access to high-speed, mobile services allows connections to essential civic, economic, and social opportunities. It touches almost all aspects of daily life, including work and education, access to news and

entertainment, public safety information and services, and healthcare, and allows interconnection in times of national crisis. The importance of expanding access to high-speed, 5G services in rural communities cannot be overstated. The Commission therefore issues this Further Notice of Proposed Rulemaking (FNPRM) mindful that full participation in American society requires us to make 5G service available to everyone, no matter where they live.

II. BACKGROUND

4. In its October 2020 *5G Fund Report and Order*, 85 FR 75770 (Nov. 25, 2020), the Commission established the 5G Fund as a replacement for Mobility Fund Phase II. The 5G Fund would use multi-round reverse auctions to distribute up to \$9 billion, in two phases, to retarget mobile universal service in the high-cost program to bring voice and 5G broadband service to rural areas of the country unlikely to otherwise see unsubsidized deployment of 5G-capable networks. The Commission decided that it would use new, more precise, verified mobile coverage data gathered through the BDC to determine the areas eligible for support in a 5G Fund auction. The Commission defined the areas eligible for support in the 5G Fund Phase I auction as those that lack unsubsidized 4G LTE and 5G broadband service by at least one service provider based on BDC data. The Commission also decided that it would accept bids and identify winning bids in a 5G Fund auction using a support price per adjusted square kilometer. Under this approach, each eligible area will have an associated number of square kilometers that will be adjusted by an adjustment factor that will assign a weight to each geographic area and apply that adjustment factor to bidding for support amounts, and support amounts for an area will be determined by multiplying an area's associated adjusted square kilometers by the relevant price per square kilometer. For example, an area with 100 square kilometers and an adjustment factor of 1.2 would have 100×1.2 or 120 adjusted square kilometers.

5. The Commission recognized from the outset that waiting for the collection of new, more precise, verified mobile coverage data obtained in the BDC would not be the fastest path to holding a 5G Fund auction, but reasoned that this would allow the Commission to better target 5G Fund support to those areas of the country where support is most needed and where the funds could be spent most efficiently. The Commission explained that waiting for the development of a National Broadband Map was critical to the success of the 5G Fund, even though at the time it lacked the congressional

appropriation necessary to implement the BDC. The Commission also reasoned that any risk of delay in holding a 5G Fund auction was further mitigated by the public interest obligations it was adopting for competitive eligible telecommunications carriers (ETCs) to continue receiving legacy high-cost support for mobile wireless services.

6. In this regard, the Commission adopted requirements for both competitive ETCs receiving legacy high-cost support for mobile wireless service and 5G Fund auction support recipients to meet public interest obligations to provide voice and 5G broadband service, and to satisfy distinct, measured performance requirements as a condition of receiving support. Pursuant to the rules adopted in the *5G Fund Report and Order*, recipients of both legacy mobile high-cost support and 5G Fund auction support are required to meet minimum baseline performance requirements for data speed, latency, and data allowance, including: (1) deploying 5G networks that meet at least the 5G-NR (New Radio) technology standards developed by the 3rd Generation Partnership Project with Release 15 (or any successor release that may be adopted by the Office of Economics and Analytics (OEA) and Wireline Competition Bureau (WCB) after appropriate notice and comment) with median download and upload speeds of at least 35 Mbps and 3 Mbps with minimum cell edge download and upload speeds of 7 Mbps and 1 Mbps; (2) meeting end-to-end round trip data latency measurements of 100 milliseconds or below; and (3) offering at least one service plan that includes a minimum monthly data allowance that is equivalent to the average United States subscriber data usage. The Commission explained that these performance requirements, along with public interest obligations for reasonably comparable rates, collocation, and voice and data roaming, will ensure that rural areas receive service reasonably comparable to high-speed, mobile broadband service available in urban areas.

7. To make certain that 5G Fund support recipients meet their public interest obligations and performance requirements in areas where they receive support, the Commission adopted interim and final service deployment milestones along with reporting requirements to monitor their progress. Specifically, the Commission adopted milestones requiring a 5G Fund support recipient to offer 5G service meeting established performance requirements to at least 40% of the total square kilometers associated with the eligible areas for which it is authorized to receive 5G Fund support in a state by the end of the third full calendar year following authorization of support, to at least 60% of the total square kilometers by the end

of the fourth full calendar year, and to at least 80% of the total square kilometers by the end of the fifth full calendar year. Moreover, the Commission adopted a final service deployment milestone that would require a 5G Fund support recipient to offer 5G service that meets the established 5G Fund performance requirements to at least 85% of the total square kilometers associated with the eligible areas for which it is authorized to receive 5G Fund support in a state by the end of the sixth full calendar year following authorization of support. Additionally, a 5G Fund support recipient is required to demonstrate by the end of the sixth full calendar year following authorization of support that it provides service that meets the established 5G performance requirements to at least 75% of the total square kilometers within each of its individual biddable areas.

8. In May 2023, the Commission released the latest version of its new National Broadband Map, which reflects the most granular and accurate mobile coverage data it has gathered through the BDC to date. The Commission will release major updates to this map twice a year, overlaying available data from service providers in these updates to ensure that the National Broadband Map is current. Based on the mobile coverage data the Commission has collected in the BDC, its understanding of where mobile service remains lacking has improved significantly, and therefore, the Commission is proceeding with its plans for the 5G Fund. Accordingly, the Commission seeks comment on a limited set of issues in the FNPRM to ensure that it meets its obligation of ensuring that those in rural America have access to services reasonably comparable to those provided in urban areas and to achieve its policy goal of ensuring that everyone who lives, works, and travels throughout the country experiences the benefits of high-speed, mobile 5G technology.

III. IDENTIFYING AREAS ELIGIBLE FOR 5G FUND SUPPORT

A. Defining the Areas Eligible for 5G Fund Support

9. In the *5G Fund Report and Order*, the Commission decided to determine the areas eligible for support in the 5G Fund Phase I auction based on where new mobile coverage data submitted in the BDC show a lack of both unsubsidized 4G LTE and unsubsidized 5G broadband service by at least one service provider. The Commission noted in the *5G Fund Report and Order* that while most providers were then still in the early stages of deploying their 5G networks in rural areas, it expected that the data collected in the BDC would show significant 5G broadband deployments. The Commission concluded

that consistent with its longstanding policy of avoiding overbuilding competitive networks, it would exclude areas with unsubsidized 5G broadband deployment from eligibility for 5G Fund support. At the time it established the 5G Fund, the Commission noted that because nationwide providers had already begun to deploy 5G service in more populated parts of the country, many urban and suburban areas had already benefitted from the evolution to 5G networks, and that even more widely-available 5G service was expected in the near future. The Commission also decided to exclude from eligibility for 5G Fund support those areas where BDC data show the deployment of unsubsidized 4G LTE networks, reasoning that subsidizing 5G deployments where unsubsidized 4G LTE networks already have been deployed would be unnecessary and risk preempting 5G deployments the Commission expected in those areas. The Commission based this belief on the combination of the then-rapid state of competitive deployment in the marketplace and T-Mobile's enforceable transaction commitments. Moreover, the Commission adopted restrictions on the use of 5G Fund support to fulfill enforceable commitments to deploy 5G, concluding that it would be inefficient to allow any provider with enforceable 5G deployment obligations to use universal service support to fund those deployments. In light of T-Mobile's extensive rural 5G deployment commitments relating to its acquisition of Sprint, the Commission said it would allow T-Mobile to make binding pre-auction commitments to identify the areas in which it will deploy 5G to fulfill its transaction commitments so that such areas can be removed from the auction inventory. The Commission directed OEA and WCB to establish specific procedures for making such pre-auction binding commitments that would cover, as appropriate, qualifications and restrictions on participating in the pre-selection process.

10. Throughout this proceeding, some parties have taken issue with the definition of areas eligible for 5G Fund support. These parties maintain that the Commission incorrectly presumed that an area that has unsubsidized 4G LTE service will see the deployment of 5G service without the need for subsidies, and/or ask the Commission to define the areas eligible for 5G Fund support as those where BDC mobile coverage data show a lack of unsubsidized 5G broadband service. Furthermore, the Commission received two petitions seeking reconsideration of its decision to exclude from eligibility for 5G Fund support areas where BDC mobile coverage data show the existence of unsubsidized 4G LTE or

5G broadband service by at least one provider, each of which asks us to instead define as eligible for 5G Fund support any area that lacks unsubsidized 5G broadband service. *See* 86 FR 6611 (Jan. 22, 2021).

11. Today, the Commission's new National Broadband Map reflects the most recently available data concerning mobile broadband service availability and provides the Commission with a substantially improved understanding of where service is available and where it remains lacking. The Updated National Broadband Map released on May 30, 2023, shows the Fabric Version 2 location data and broadband availability data as of December 31, 2022. The new map provides an improved picture of where mobile broadband service is available, the type(s) of service available, the speeds available, and the environment(s) in which service is available. Historically, mobile data collected in FCC Form 477 suffered from a lack of any standardized parameters for the submission of propagation maps. The Commission remedied this issue in the *BDC Second Report and Order*, 85 FR 50886 (Aug. 18, 2020), by adopting certain uniform minimum parameter values that it believed to be equally important for demonstrating 3G and 5G NR coverage as well as voice coverage, as recommended by the Rural Broadband Auctions Task Force in the *Mobility Fund Phase II Coverage Maps Investigation Staff Report*. The Commission stated that in addition to requiring mobile broadband providers to use propagation modeling to generate and to submit maps showing their 4G LTE coverage, such providers are additionally required to submit information, data, and coverage maps for existing 3G networks and next-generation 5G-NR networks. The new map allows the Commission to more accurately target universal service funding to expand broadband to unserved and underserved areas.

12. Figure 1 in the FNPRM, titled "Areas Without Unsubsidized Mobile Broadband Service," shows areas where mobile coverage data submitted in the BDC show a lack of unsubsidized 5G mobile broadband service at speeds of at least 7/1 Mbps by at least one service provider, and areas where the data show a lack of unsubsidized 5/1 Mbps 4G LTE mobile broadband service or higher by at least one service provider. Figure 1 was created using overlapping provider-reported BDC mobile availability data as of December 31, 2022 (updated August 16, 2023), depicting coverage based on an outdoor stationary environment. Figure 2 in the FNPRM, titled "USAC Mobile CETC Service Area Boundaries Map," shows a picture of the USAC's online map delineating the boundaries of the subsidized service areas of each competitive ETC receiving mobile legacy high-cost support used in determining which areas are

subsidized for this purpose. The Commission stated in the *5G Fund Report and Order* that it will use Geographic Information Systems (GIS) data from the USAC delineating the boundaries of the subsidized service areas of each competitive ETC receiving mobile legacy high-cost support in determining which areas are subsidized for this purpose. The FNPRM notes that California, Connecticut, Delaware, Florida, Hawaii, Indiana, Maryland, Massachusetts, Minnesota, New Jersey, Ohio, Pennsylvania, Rhode Island, Vermont, and Washington, D.C. do not have any mobile legacy high-cost support service areas.

13. Figure 3 in the FNPRM, titled “Percent of a State’s Total Area Within a Subsidized CETC Area and the Percent of Total High-Cost Subsidy Directed to That State,” and Figure 4 in the FNPRM, titled “Percent of a State’s Total Area Within the Subsidized Area of 1, 2, 3, or 4 CETCs,” provide more detail about the distribution of mobile legacy high-cost support by state.

14. With data collected in the BDC and currently reflected on the National Broadband Map, the Commission is better able to assess where mobile broadband services are—and are not—available. In the nearly three years since the adoption of the *5G Fund Report and Order*, the deployment of high-speed 5G mobile services has significantly expanded. However, even with this expansion of 5G coverage, the digital divide remains, and numerous “broadband deserts” continue to exist. Indeed, based on BDC data as of December 2022, the Commission estimates that there are over 14 million broadband serviceable locations (locations) that lack mobile 5G coverage at speed thresholds of at least 7/1 Mbps in an in-vehicle environment. This estimate is based on overlapping provider-reported BDC mobile availability data as of December 31, 2022, depicting coverage based on in-vehicle, mobile environment, on broadband serviceable locations. The Broadband Serviceable Location Fabric (Fabric) is a dataset of all locations in the United States and its Territories where fixed broadband Internet access service can be installed. Specifically, service providers express fixed broadband availability in the BDC in terms of which particular Fabric locations can be served. The Fabric therefore represents the universe of locations to which fixed broadband service can be provided, and the semi-annual BDC tells us which locations have fixed broadband service available, and which do not. Locations are treated as lacking coverage if they fall outside (the latitude/longitude coordinates are not covered by) the areas reported by providers as having coverage available with the relevant technology, speed, and environment. Mobile availability based on coverage in an outdoor stationary environment results in a smaller number of locations, 6

million, that lack 5G coverage at speed thresholds of 7/1 Mbps. Given how mobile broadband coverage has evolved over the past three years and the Commission's improved understanding of mobile coverage based on data gathered through the BDC, the Commission seeks comment on how to ensure that the 5G Fund most efficiently promotes the deployment of 5G mobile broadband service in areas where it would not be offered absent subsidies. To that end, the Commission seeks comment on whether it should continue to use the definition adopted by the Commission in the *5G Fund Report and Order* to determine areas eligible for the 5G Fund Phase I auction, or whether it should modify the definition to base the determination of eligible areas on where mobile coverage data submitted in the BDC show a lack of unsubsidized 5G broadband service by at least one service provider

15. As the map in Figure 1 in the FNPRM shows, the Commission expects that using the definition of eligible areas adopted in the *5G Fund Report and Order* would result in fewer areas being eligible for support in the 5G Fund Phase I auction than if the Commission modified the definition to be based on areas that lack unsubsidized 5G coverage. Given its objective of ensuring that it targets its finite budget to where it is most needed to promote the deployment of 5G mobile broadband service, the Commission seeks comment on whether using an eligible areas definition that is more likely to limit, or more likely to expand, the number of areas that would be eligible for support in the 5G Fund Phase I auction serves the public interest. If the Commission modifies the definition of eligible areas as discussed above, would 5G Fund support be more likely to end up in areas that do not have 5G service but do have unsubsidized 4G LTE service?

16. The Commission seeks comment on what motivations there are for unsubsidized providers of 4G LTE service to upgrade their networks to 5G technology in rural areas. Does the provision of unsubsidized 4G LTE service in rural areas serve as an indicator that 5G mobile broadband service will be deployed in those areas absent subsidies? What metrics can the Commission consider to reliably identify rural areas that will not see unsubsidized 5G mobile broadband service? Over what time period should the Commission expect to see an unsubsidized 4G LTE network be replaced by 5G technology in rural areas, absent subsidies? Commenters should specifically address why subsidies are, or are not, necessary in areas that already have unsubsidized 4G LTE coverage. The Commission also seeks comment on how it can balance its objective to provide support for the provision of 5G mobile broadband

service in all areas where people live, work, and travel with its obligation to be a fiscally responsible steward of its limited universal service funds and the Commission's commitment to prevent overbuilding. What are the costs and benefits of deployment of 5G mobile broadband service in areas lacking both 4G LTE and 5G mobile broadband service relative to deployment of 5G to areas lacking only 5G service? The Commission seeks comment on which definition of eligible areas best ensures that the Commission will not subsidize areas that will otherwise see competitive, market-based deployments of 5G mobile broadband networks.

17. The Commission also seeks comment on the appropriate 4G LTE and 5G speed thresholds to use as the benchmark for determining areas eligible for support in the 5G Fund Phase I auction under either the previously adopted or a modified definition of eligible areas. Specifically, the Commission seeks comment on using speed thresholds of 5/1 Mbps with respect to 4G LTE service and 7/1 Mbps for 5G service as the benchmark when determining areas eligible for support in the 5G Fund Phase I auction. The BDC collects 4G LTE coverage areas based on speed thresholds of 5/1 Mbps in accordance with the Broadband DATA Act, and collects 5G coverage areas based on speed thresholds of both 7/1 Mbps and 35/3 Mbps. In the *5G Fund Report and Order*, the Commission adopted a minimum baseline performance requirement for 5G Fund support recipients to deploy 5G-NR service with median speeds of at least 35/3 Mbps and speeds of 7/1 Mbps at the cell edge. Consistent with the Commission's rationale in the *Mobility Fund Phase II Report and Order* with respect to determining eligible areas, the Commission does not believe it would be advisable to use the same 35/3 Mbps speed thresholds for determining areas eligible for 5G Fund support that it will require of 5G Fund support recipients for determining compliance with their performance requirements. Moreover, the Commission expects that a speed threshold of 7/1 Mbps reflects the minimum desired typical mobile user experience across broad 5G coverage areas. Under this approach, if the Commission continues to use the definition of eligible areas adopted in the *5G Fund Report and Order*, it would exclude from eligibility for 5G Fund support areas where unsubsidized 4G LTE service and unsubsidized 5G service is available at speed thresholds of at least 5/1 Mbps and at least 7/1 Mbps, respectively. Or, if the Commission modifies the definition of eligible areas to be those that lack unsubsidized 5G service, it would exclude from eligibility for 5G Fund

support areas where unsubsidized 5G service is available at speed thresholds of at least 7/1 Mbps. The Commission seeks comment on using these speed thresholds.

18. The Commission requires that the coverage maps submitted by providers in the BDC predict 4G LTE and 5G coverage based on both outdoor stationary and in-vehicle mobile environments. An outdoor stationary environment typically results in a larger coverage footprint than an in-vehicle mobile environment. The Commission seeks comment on which environment to use when determining the areas eligible for 5G Fund support under whichever definition it uses to determine areas eligible for the 5G Fund Phase I auction.

19. Because it seeks to direct 5G Fund Phase I support to areas where people live, work, and travel, regardless of the definition used to identify the areas eligible for the 5G Fund Phase I auction, the Commission seeks comment on limiting eligible areas to those that contain locations and/or roads. The Commission would determine the areas that contain locations using the Fabric; having the Fabric through the BDC enables the Commission to do this at a granular level. The Commission seeks comment on limiting eligible areas to those that contain locations as identified through the BDC and/or roads. Under this approach, the Commission would use road data from OpenStreetMap, and seeks comment on which categories of roads should be considered in determining eligible areas. The Commission also seeks comment on whether it should use an alternate source of road data and why. In order to limit eligible areas in this manner, the Commission would need to designate the geographic areas that contain locations and/or roads.

20. Under this approach, the Commission would use the H3 hexagonal geospatial indexing system (H3 system) to identify specific geographic areas eligible for 5G Fund support. H3 is an open-source GIS dataset developed by Uber Technologies, Inc., that overlays the globe with hexagonal cells of different sizes at various resolutions, from 0 to 15. The smallest hexagonal cells are at resolution 15, in which the average hexagonal cell has an area of approximately 0.9 square meters, and the largest are at resolution 0, in which the average hexagonal cell has an area of approximately 4.25 million square kilometers. The H3 system is designed with a nested structure wherein a lower resolution cell (the “parent” hexagon) contains approximately seven hexagonal cells at the next higher resolution (its “children” where each “child” is a smaller, nested hexagon), which fit approximately within the “parent”

hexagon. In the *BDC Mobile Technical Requirements Order*, 87 FR 21476 (Apr. 11, 2022), the Wireless Telecommunications Bureau (WTB), OEA, and the Office of Engineering and Technology (OET) adopted the H3 system to identify geographic areas where a challenge to a provider's mobile BDC availability data can be created based on the point locations of on-the-ground challenger speed tests. The H3 system has also been adapted to the Commission's National Broadband Map to divide the map into specific geographic areas and show the percentage of a hexagon that is "covered" (i.e., where a provider has claimed it can make broadband available) at different resolutions and levels of granularity as a user zooms in or out on the map. Mobile broadband coverage is displayed down to the resolution-9 hexagon level (hex-9) on the map, and data on such coverage is made available for download based on hex-9s. Because of its nested structure, using the H3 system allows the Commission to categorize geographic areas at multiple levels of granularity.

21. The Commission would then convert the areas eligible for 5G Fund support to, and make them available in the form of, H3 hexagonal units, specifically as hexagons at resolution 9. As opposed to "raw" coverage footprints based on propagation model output, which do not conform to any defined boundary, hex-9s are standardized and can be clearly identified and referenced. Because hex-9s are relatively small, with an average area of approximately 0.1 square kilometer, any reduction in map resolution when converting from raw propagation model output (as filed by providers) to hex-9s is minimal. The Commission believes the use of hex-9s can strike the appropriate balance between the benefits of their use and this loss in granularity, particularly given that the data as filed are based on models of coverage. As is the case with the data available on the National Broadband Map, if any part of the hex-9 is overlapped by the relevant mobile coverage area, then the Commission would consider the entire hex-9 as covered or served by that coverage area for purposes of generating the areas eligible for 5G Fund support. The Commission seeks comment on this approach, as well as the use of the H3 geospatial indexing system generally, and the hex-9 resolution specifically, as the basis for identifying specific geographic areas that are eligible for 5G Fund support.

22. The Commission also seeks comment on other factors it should consider in determining the areas eligible for 5G Fund support, such as whether to include Urbanized Areas, water-only areas, and/or inaccessible areas.

23. Regardless of how the Commission defines eligible areas, it proposes to use as the basis for the final eligible areas the version of the mobile availability data published on the National Broadband Map no later than 30 days prior to the start of bidding. This version will reflect updates filed by providers as the result of resolved challenges and other corrections and published on the map by that date.

B. Puerto Rico and the U.S. Virgin Islands

24. As a result of the devastation to the communication networks in Puerto Rico and the U.S. Virgin Islands caused by Hurricanes Irma and Maria in September 2017, the Commission took immediate steps to make emergency funding available for the restoration of mobile communications on these islands, and subsequently adopted funding mechanisms to restore and rebuild mobile networks there. In the *5G Fund Report and Order*, the Commission therefore excluded areas in Puerto Rico and the U.S. Virgin Islands from eligibility for 5G Fund support because the Commission was already providing high-cost support, including support for 5G mobile broadband, through the Bringing Puerto Rico Together Fund and the Connect USVI Fund.

25. In its 2019 *PR-USVI Stage 2 Order*, 84 FR 59937 (Nov. 7, 2019), the Commission adopted a three-year funding period and budgets for Stage 2 of the Bringing Puerto Rico Together Fund and the Connect USVI Fund pursuant to which carriers could elect to receive up to 75% of the support for which they are eligible to restore, harden, and expand their networks using 4G LTE or better technology capable of providing service at speeds of at least 10/1 Mbps, and up to 25% of the support for which they are eligible to deploy 5G mobile networks capable of providing service at speeds of at least 35/3 Mbps. The Commission noted that it expected to establish a competitive funding mechanism for the long-term expansion of advanced telecommunications access and next generation wireless services for Puerto Rico and the U.S. Virgin Islands by the conclusion of Stage 2. Stage 2 mobile support under the Bringing Puerto Rico Together Fund and the Connect USVI Fund was scheduled to conclude at the end of June 2023; however, in its April 2023 *Transitional Support Report and Order*, 88 FR 28993 (May 5, 2023), the Commission adopted a transitional support period of up to 24 months to allow eligible mobile carriers currently receiving Stage 2 mobile support to continue receiving support to harden their networks as the Commission works to develop a long-term funding mechanism. The Commission stated in the

Transitional Support Report and Order that transitional support would end sooner than 24 months if such a long-term funding mechanism were established before the transition period ends.

26. At the time of Hurricanes Irma and Maria, the Mobility Fund Phase II auction had not yet taken place. Moreover, the Commission has since replaced Mobility Fund Phase II with the 5G Fund. Accordingly, now, as the Commission transitions from providing restorative support to mobile carriers in Puerto Rico and the U.S. Virgin Island to repair and harden their networks to offering support to mobile carriers to deploy high-speed 5G mobile services in areas that that would otherwise not see such services absent subsidies, the Commission seeks comment on whether to make 5G Fund support available to areas in Puerto Rico and the U.S. Virgin Islands meeting the eligible areas definition, subject to the same terms and conditions as 5G Fund support awarded in other eligible areas. Alternatively, should the Commission instead explore a dedicated long-term funding mechanism for support for mobile services on these islands? Commenters should explicitly explain whether, having been provided support under a dedicated mechanism for the last several years, it is now appropriate to view the funding needs for support for mobile broadband services in Puerto Rico and the U.S. Virgin Islands through the same lens as other areas eligible for mobile support.

IV. 5G FUND BUDGET

27. In the *5G Fund Report and Order*, the Commission adopted a budget of \$9 billion for the 5G Fund, which incorporated and repurposed the \$4.53 billion originally budgeted for Mobility Fund Phase II. In establishing the 5G Fund budget, the Commission recognized that extending deployment of 5G networks would require significant expenditures. Nonetheless, the Commission was mindful of its obligation to balance the objectives of the 5G Fund with its obligation to exercise fiscal responsibility by avoiding excessive subsidization, recognizing that the cost of subsidies distributed under the 5G Fund would ultimately be borne by consumers and businesses. Accordingly, the Commission adopted a reverse auction mechanism to ensure that funds from the available budget would be spent as efficiently and effectively as possible.

28. The Commission takes this opportunity to ask if there are significant reasons to modify the budget, and if so, by how much. The Commission notes that none of the parties that commented on the *5G Fund NPRM*, 85 FR 31616 (May 26, 2020), proposed an alternative amount for the 5G Fund budget,

and no party sought reconsideration of the \$9 billion budget that the Commission adopted. Some commenters, however, suggested that the 5G Fund budget should be increased to an amount that would be sufficient to deploy 5G networks to all eligible areas. Subsequently, other parties, in *ex parte* communications and other filings, echoed the assertion that the budget was insufficient, with several citing to a 5G mobility cost model placed in the record by the Competitive Carriers Association.

29. The Commission asks those commenting on the budget to keep in mind the reasons underlying the Commission's adoption of a reverse auction—the auction uses competition across areas and within areas to determine which areas will receive support, in what amounts, and which entities will receive that support, all within the available budget. This ensures that as many units as possible can be covered within the budget at prices the winning bidders have agreed to accept, consistent with the Commission's fiscal responsibilities. As a threshold matter, basing the budget on the estimated cost of serving all areas (however estimated, according to a model such as that submitted in the record or any other method) conflicts with the rationale for using a reverse auction—that is, of spending available funds cost-effectively. Even if the Commission was willing to increase universal service contributions to raise such funds—and it is not—establishing a budget based on total estimated costs would not result in support amounts that are competitive but still acceptable to the providers, as a reverse auction does. With respect to using a cost model to determine reserve amounts, i.e., maximum bid amounts, also as suggested in the record, the Commission does not believe such a process is needed to determine a uniform starting clock price in dollars per adjusted square kilometer that would apply to all areas. Moreover, the Commission disagrees with the assertion in the record that a reverse auction without area-specific reserve prices is likely to provide excessive support in areas with few applicants. The reverse auction format previously used by the Commission and adopted for the 5G Fund incorporates competition across areas, which lowers the support price for all areas before assigning support to any areas. Further, even if there is only one other bidder for a given area, the support price will be lowered still further. That is, under the basic reverse auction format, the support clock price applicable to all areas would begin high and descend in discrete rounds. In each round, bidders will indicate their willingness to accept support for an area at iteratively lower clock prices. When the total amount of support requested by bidders (counting an area only once) falls to an amount that can be accommodated within the budget, the areas that still have bids

will receive support. Areas with a single remaining bidder will be supported at the “clearing price.” If there are areas where more than one bidder is still competing, the support clock price will continue descending until a single bidder remains, which will be supported at that price.

30. In seeking comment on the budget, the Commission asks commenters to provide specific examples of any fundamental factors that have changed since the *5G Fund Report and Order* was adopted. Commenters should also explain how any such factors are significant enough to warrant allocating more Universal Service Fund (USF) monies to the 5G Fund. Should any change in the budget affect both phases of the 5G Fund, and if so, how? The Commission also asks, if the budget is modified, whether the size of the Tribal reserve budget as previously adopted should also change, and if so, how.

31. The Commission reminds those commenting on the 5G Fund budget that the Commission is obligated to distribute universal service funds in the most cost-efficient way possible and that arguments that focus solely on estimates do not take into account the Commission’s obligation to balance the cost of subsidies with the additional burden that such increased expenditures would impose on the consumers and businesses that fund the subsidies. Therefore, commenters advocating for an increased budget should consider and address the source of any funds potentially allocated to the 5G Fund.

32. The Commission also seeks comment on whether any adjustments to the 5G Fund budget would be necessary if the 5G Fund were to become the long-term funding mechanism for Puerto Rico and the U.S. Virgin Islands and areas in Puerto Rico and the U.S. Virgin Islands meeting the eligible areas definition are eligible for 5G Fund support.

V. ACCEPTING BIDS AND IDENTIFYING WINNING BIDS

A. Metric for Accepting Winning Bids and Identifying Winning Bids

33. In the *5G Fund Report and Order*, the Commission decided that it would accept bids and identify winning bids in the 5G Fund auctions using a support price per adjusted square kilometer. Under this metric, each eligible area would be associated with a number of units equal to the square kilometers of the area multiplied by an adjustment factor based on a number of area-specific characteristics, including terrain and elevation, and demand-related factors, such as income, gross domestic product (GDP), and population density. Adjustment factor values adopted in the *Adjustment Factor Values Public Notice*, 86 FR 11149 (Feb. 24, 2021), ranged from 1 to 3.8, with higher adjustment factors

associated with more sparsely populated areas and/or forested and mountainous areas and lower average incomes. However, the Commission also determined that the 5G Fund auction would wait for the more precise data on “areas of the country where support is most needed and will be spent most efficiently” that would be forthcoming from the BDC.

34. The Commission seeks comment in the FNPRM on limiting eligible areas to resolution-9 H3 hexagons that have locations and/or roads. If the Commission were to limit eligible areas to resolution-9 H3 hexagons that have locations and/or roads, it would use a bidding and support price metric based on dollars per square kilometer for those eligible areas. Accordingly, the support amount for an area would be determined as the number of square kilometers associated with the area times the price at which support is assigned. The Commission seeks comment on whether to use the adjustment factor as previously adopted. The adjustment factor was designed to equalize the cost of serving all areas, so that it would be equally likely that particularly costly areas (defined, in part, by low population density and difficult terrain) and areas that can be served more cost-effectively would win support. Moreover, the Commission seeks comment on whether a support unit in terms of square kilometers alone—absent the adjustment that would have given priority to areas with low incomes, low population density, and costly terrain—would, to the greatest extent possible, promote its goal of providing 5G coverage to places where people live, work, and travel. The Commission also seeks comment on whether it should adopt an alternative approach that would provide some advantage to particularly costly areas that nonetheless are areas with a considerable number of homes, business, and other locations, and/or roads that are frequently travelled. Could parameters for an alternative approach be determined without unduly delaying the auction?

35. As an alternative to using dollars per square kilometer as the bidding and support price metric, the Commission also seeks comment on using a bidding and support price metric based on the number of locations in the eligible areas. If the Commission were to adopt this metric, eligible areas would be associated with a number of such locations in the area; the clock would announce prices in terms of dollars per location; and support amounts would be calculated as the number of locations in the area times the support price per location.

36. The Commission also seeks comment on potentially incorporating the number of unserved road miles in an area, as well as the number of locations, into the bidding and support price metric. What source of road data and which road categories should the Commission use? How could the Commission do so in a way that would appropriately balance unserved road miles and unserved locations in a single metric? For example, could the Commission adjust the number of locations upward by a fraction, e.g., 25%, in an area with a moderate number of unserved road miles, and by a larger fraction, e.g., 40%, if the area has a large number of unserved road miles? Or, would a metric that is a weighted sum of unserved locations and unserved road miles be appropriate? For example, a metric might be the total of the number of unserved locations and one half of the number of unserved road miles. If the Commission were to use such a hybrid metric, would covering an unserved road mile be more or less preferred than covering a location? How would the Commission determine the appropriate weights? Commenters should keep in mind that the weights would not have to be precisely calculated, but simply represent the extent to which the auction mechanism would put a “finger on the scale.”

37. Limiting eligible areas to those areas that have unserved road miles and/or unserved locations would reflect the Commission’s goal of providing support to areas where people live, work, and travel. If the Commission uses a bidding and support metric of dollars per square kilometer, are there other ways to incorporate incentives to bid for areas covering unserved locations and road miles, such as by requiring winning bidders’ support obligations to include unserved locations and road miles? A bidder would know the extent of its obligations in advance of the auction and could adjust accordingly the amount of support in terms of dollars per square kilometer that it is willing to accept. Are there other ways to encourage coverage of locations and road miles without explicitly incorporating them into the metric? Commenters should consider that a suggested approach should be transparent and straightforward to measure.

38. The Commission also seeks comment on a possible metric based on predicted usage from serving eligible areas. This metric would consider all measurable factors that can affect mobile usage, such as unserved locations, road miles, and areas with parks or wilderness where devices are likely to be used. For such an approach, the Commission would need to consider what data are available that would enable us to make useful predictions of usage. If the Commission were to use this usage-based approach, how should usage be measured? One possible measure of usage would be the average number of

connected 5G devices in 15-minute periods throughout the day. Another possible measure of usage would be total megabytes of data usage during a reporting period. Similar to the approaches used to generate the adjustment factor that was adopted in the *5G Fund Report and Order*, such data could be used in a regression or another modeling approach to generate weights for each eligible area based on predicted usage.

B. Minimum Geographic Area for Bidding

39. In the *5G Fund Report and Order*, the Commission concluded that “the minimum geographic area for bidding—i.e., the geographic area by which areas eligible for support for 5G Fund support will be grouped for bidding—in a 5G Fund auction will be no larger than a census tract and no smaller than a census block group, as designated by the U.S. Census Bureau.” Census tracts and census block groups are practical units for aggregation when starting with census blocks, as, for example, in the Rural Digital Opportunity Fund. As discussed in the FNPRM, the Commission would convert the areas eligible for the 5G Fund to, and make them available in the form of, hex-9s. The Commission could then group the eligible hex-9s into larger geographic areas for purposes of bidding. For example, the Commission could have the geographic bidding unit be all of the eligible hex-9s that overlap a census tract or census block group. Alternatively, eligible hex-9s could be aggregated to another geographic area, such as the H3 hexagonal geospatial indexing system resolution-5 hexagon level (hex-5s). The Commission seeks comment on what aggregation scheme would be an efficient and appropriate way to group eligible hex-9s for bidding.

VI. COMPLIANCE WITH 5G FUND PUBLIC INTEREST OBLIGATIONS AND PERFORMANCE REQUIREMENTS

A. Metric for Measuring Compliance with 5G Fund Public Interest Obligations and Performance Requirements

40. The Commission adopted interim and final service deployment milestones for 5G Fund support recipients in the *5G Fund Report and Order* to ensure that they meet their public interest obligations and performance requirements in areas where they receive support. The Commission’s proposal to use dollars per square kilometer as the bidding and support price metric is consistent with this approach. If the Commission decides to modify the bidding and support price metric for the 5G Fund

auctions to use a metric that targets locations (and possibly road miles), as discussed above, the Commission would need to make corresponding modifications to the rules adopted in the *5G Fund Report and Order* concerning the metric that would be used to measure a 5G Fund support recipient's compliance with its public interest obligations and performance requirements.

41. Under this approach, if the Commission adopts a different bidding and support price metric, it would likely adopt the same metric for measuring compliance. For example, if the Commission were to use a locations-based metric without a road miles component, the Commission would measure compliance based on a support recipient deploying service that meets the 5G Fund performance requirements to a specified percentage of the total locations within the eligible areas for which it is authorized to receive 5G Fund support in a state by the relevant interim service milestone and the final service milestone. Or, if the Commission were to use a hybrid metric that incorporates locations and road miles, it would measure compliance based on a support recipient deploying service that meets the 5G Fund performance requirements to a specified percentage of the total unserved locations and a specified percentage of the total unserved road miles within the eligible areas for which it is authorized to receive 5G Fund support in a state by the relevant interim service milestone and the final service milestone. However, an exception to the approach of adopting the same metric for measuring compliance if the Commission adopts a different bidding and support price metric would be if the Commission were to adopt an alternative approach to encouraging coverage of unserved road miles by using a metric based on locations alone, but require coverage of road miles as well as locations as part of the winner's obligations.

42. The Commission seeks comment on its approach to harmonizing the metric it uses to measure a 5G Fund support recipient's compliance with its public interest obligations and performance requirements should the Commission decide to modify the bidding and support price metric adopted in the *5G Fund Report and Order*.

43. The Commission also seeks comment on whether, in determining the metric it uses to measure a 5G Fund support recipient's compliance with its public interest obligations and performance requirements, the Commission should also consider how any such metric might allow us to account for the impact of the Broadband Equity, Access, and Deployment (BEAD) Program and other Federal and state broadband infrastructure investments, if any, on the deployment of mobile broadband. Given that

the BEAD Program does not provide funding for mobile broadband deployment, the Commission seeks comment on whether its proposals herein, together with the rules and procedures already adopted for the 5G Fund, are sufficient to ensure that the Commission efficiently and effectively facilitates the deployment of mobile broadband service to those areas where support is most needed. Furthermore, the Commission seeks comment on whether the use of a metric that targets locations and/or road miles to measure a 5G Fund support recipient's compliance with its public interest obligations and performance requirements provides us with the ability to determine if, and how, mobile broadband deployment supported through the 5G Fund complements other federally funded buildout efforts and investments in broadband infrastructure. Finally, the Commission seeks comment on steps it can take to ensure that any final decision here is taken in coordination and with due consideration for the other various broadband infrastructure funding initiatives underway.

B. Methodologies for Demonstrating Compliance with 5G Fund Performance Requirements

44. In the *5G Fund Report and Order*, the Commission decided to generally align the framework for 5G Fund support recipients' demonstration of compliance with their 5G Fund interim and final performance requirement milestones with the BDC, concluding that standardizing the data required for compliance reporting was likely to ease the burden on support recipients throughout universal service programs, while collecting sufficient data to confirm that the 5G Fund's requirements have been met. To that end, the Commission adopted a requirement that 5G Fund support recipients certify at the established interim and final service deployment milestones that their 5G mobile broadband coverage data reflects deployments in the eligible areas for which they are authorized to receive 5G Fund support, and also adopted a requirement that 5G Fund support recipients conduct on-the-ground measurement tests to substantiate their 5G broadband coverage data pursuant to methodologies for conducting such testing and validating the test results and file that data in the BDC portal. Rather than adopting customized 5G Fund testing requirements, the Commission decided to adopt test metrics, data specifications, and permitted testing applications that are at least as stringent as those adopted for governmental and third party challenges in the BDC as a minimum for the on-the ground tests required for the 5G Fund. With respect to the methodologies for conducting on-the-ground tests, the Commission decided that a 5G Fund support recipient must submit on-the-ground measurement tests with at least three tests conducted per square

kilometer, measured by overlaying a uniform grid of one square kilometer (1 km by 1 km) on its submitted 5G coverage maps within the area for which 5G Fund support was awarded in a percentage of all drive-testable grid cells where the recipient reports deployment of 5G service by the applicable service deployment milestone. The minimum percentage of drive-testable grid cells tested must equal the minimum percentage of coverage required for each service buildout milestone (i.e., 40%, 60%, 80%, 85%).

45. The Commission proposes to modify the methodologies that support recipients would use to substantiate their 5G broadband coverage certifications in the areas for which they receive 5G Fund support in order to be consistent with both its proposal to use hexagonal areas as the basis for the areas eligible for 5G Fund support and the Commission's decision in the *5G Fund Report and Order* to generally align the framework for demonstrating compliance with 5G Fund performance requirement milestones with the BDC. Specifically, the Commission proposes requiring 5G Fund support recipients to use the methodologies adopted for the BDC mobile verification process as the basis for substantiating coverage and demonstrating compliance with the 5G Fund interim and final deployment milestones adopted in the *5G Fund Report and Order*. Under the requirements for the BDC mobile verification process, mobile providers can submit either on-the-ground test data or infrastructure data to verify coverage in response to a mobile verification request from the Commission. The Commission may then use the infrastructure data to generate a predicted coverage area using propagation modeling software. The Commission seeks comment on this proposal and, in particular, whether 5G Fund support recipients should be required to submit on-the-ground test data for areas that are accessible and infrastructure data for areas that are inaccessible. Should they submit infrastructure data sufficient to generate a "core coverage area," as defined in the BDC mobile verification process, and on-the-ground test data for areas outside of such a core coverage area? Alternatively, should providers be allowed to submit either type of data regardless of the type of area in which they are deploying service?

46. If a provider chooses to submit on-the-ground test data in response to a BDC mobile verification request, it must provide such data based on a sample of on-the-ground tests that is statistically appropriate for the area tested. The sampled area is based on H3 resolution-8 hexagonal areas, and the provider must submit the results of at least two tests within each hexagon, and the time of the tests must

be at least four hours apart, irrespective of date. The BDC rules provide that a provider must submit the results of at least two tests “unless, for any sampled hexagon, the provider has and submits alongside its speed tests actual cell loading data for the cell(s) covering the hexagon sufficient to establish that median loading, measured in 15-minute intervals, did not exceed the modeled loading factor for the one-week period prior to the verification inquiry, in which case the provider is required to submit only a single test for the sampled hexagon.” *See* 47 CFR 1.7006(c). The tests are then evaluated to confirm, using a one-sided 95% statistical confidence interval, that the cell coverage is 90% or higher. The Commission proposes to use a methodology for support recipients to demonstrate compliance with their 5G Fund performance requirement milestones that is similar to that adopted for the BDC mobile verification process, except that 5G Fund support recipients would not submit speed data based on a *sample* of areas, but for *all* supported areas subject to the on-the-ground testing requirement, and the area would be hex-9 instead of a hex-8. Under this approach, a 5G Fund support recipient’s cumulative test data will be required to show that at least 90% of measurements report 5G service at download and upload speeds of at least 7/1 Mbps and median download and upload speeds of at least 35/3 Mbps, and that at least 90% of tests record data latency of 100 milliseconds or less at the cell edge, as adopted in the *5G Fund Report and Order* for each of the support recipient’s interim and final deployment milestones. The Commission seeks comment on this approach. Do commenters believe that more tests or fewer tests should be required within a hexagonal area? Should the tests be spaced further than four hours apart or closer together?

47. If a provider chooses to submit infrastructure data in response to a BDC mobile verification request, it must submit additional information beyond what is submitted as part of its biannual BDC availability data (propagation modeling details, as well as link budget and clutter data), including cell-site and antenna data for the targeted area. The Commission proposes to require 5G Fund support recipients to submit the same additional infrastructure data as is required in the BDC mobile verification process to substantiate coverage in the areas for which they receive 5G Fund support. The Commission seeks comment on this approach.

VII. SCHEDULE FOR TRANSITIONING FROM MOBILE LEGACY HIGH-COST SUPPORT TO 5G FUND SUPPORT

48. In the *5G Fund Report and Order*, as part of its determination that the 5G Fund constitutes a comprehensive mechanism for mobile high-cost support that would serve as the alternative to Mobility Fund Phase II, the Commission concluded that it would commence the phase down of legacy mobile high-cost support in areas that are ineligible for 5G Fund support as soon as those areas were finalized. In the Consolidated Appropriations Act of 2023, Pub. L. No. 117-328, Div. E, Title VI 624, 136 Stat. 4459, 4702, however, Congress amended the language that allowed the Commission to consider support mechanisms as alternatives to Mobility Fund Phase II to further provide that any such alternative mechanism maintain existing high-cost support to competitive eligible telecommunications carriers until support under such mechanism commences. Accordingly, the Commission proposes to treat the release of the public notice announcing the close of the 5G Fund Phase I auction to be the point at which support under the 5G Fund commences. The Commission seeks comment on this proposal. The Commission also seeks comment on whether the appropriations rider requires the Commission to modify or consider any other changes to aspects of its plan for transitioning from mobile legacy high-cost support to 5G Fund support. Commenters should provide support for any interpretation they offer and how the public interest is best served by any such interpretation.

VIII. CERTIFICATION OF NOTICE OF 5G FUND PHASE I AUCTION REQUIREMENTS AND PROCEDURES

49. The Commission proposes to adopt a requirement for the 5G Fund Phase I auction that each auction applicant certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements, terms, and conditions associated with receipt of 5G Fund support. As with other required certifications, an auction applicant's failure to make the required certification in its short-form application by the applicable filing deadline would render its application unacceptable for filing, and its application would be dismissed with prejudice.

50. Prior to the deadline by which an interested party must submit a short-form application to participate in a given auction, a public notice is released announcing the procedures for the auction. This

“Procedures Public Notice” describes in detail both the requirements for participating in the auction and the procedures that will be used to conduct all stages of the auction. The Commission has a longstanding policy that expressly places a burden upon each applicant to be thoroughly familiar with the procedures, terms, and conditions contained in the relevant Procedures Public Notice and any future public notices that may be released in the auction proceeding. In recent spectrum auctions the Commission and OEA, in conjunction with the WTB and the Media Bureau, have reinforced this policy by adopting, as part of the procedures for those auctions, a requirement that each auction participant certify, under penalty of perjury, that it has read the Procedures Public Notice for the auction in question, and that it has familiarized itself with the auction procedures and with the requirements related to the licenses made available for bidding. In adopting this certification requirement for prior Commission auctions, the Commission noted that it was intended to bolster applicants’ efforts to educate themselves to the greatest extent possible about the procedures for auction participation and to ensure that, prior to submitting their short-form applications, applicants understood their obligation to stay abreast of relevant, forthcoming information. The Commission further reasoned that familiarity with the Commission’s rules and procedures governing the auctions would help bidders avoid the consequences to them associated with defaults, which also cause harm to other applicants and the public by reducing the efficiency of the auction process and reducing the likelihood that the license or construction permit will be assigned to the bidder that values it the most. The Commission has also previously expressed in the context of spectrum auctions that the certification requirement will help ensure that an auction applicant has investigated and evaluated those technical and marketplace factors that may have a bearing on its potential use of any licenses won at auction.

51. The Commission believes that applicants for universal service support in the 5G Fund Phase I auction would benefit from a similar certification because, as is the case with its spectrum auctions, familiarity with the rules and procedures governing the 5G Fund Phase I auction would help bidders avoid the consequences to them associated with defaults, which also cause harm to other applicants and the public by reducing the efficiency of the auction process. The Commission also believes that such certification would promote the integrity of and public confidence in the Commission’s auction processes as well as ensure that 5G Fund Phase I support recipients are aware of and better prepared to comply with

their public interest obligations and performance requirements. The Commission therefore proposes to adopt this requirement for the 5G Fund Phase I auction and seeks comment on this proposal. The Commission seeks comment on any alternative procedures that could be implemented that would better ensure that an applicant has thoroughly reviewed the auction's procedures and considered all relevant factors that may affect its participation in the auction and use of any support for which it is the winning bidder.

IX. CYBERSECURITY AND SUPPLY CHAIN RISK MANAGEMENT

52. The Commission seeks comment on whether to require 5G Fund support recipients to implement cybersecurity and supply chain risk management plans as a condition of receiving 5G Fund support. In the *Enhanced Alternative Connect America Cost Model Report and Order*, 88 FR 55918 (Aug. 17, 2023) (*Enhanced A-CAM Report and Order*), the Commission adopted a requirement that wireline providers receiving funds through the Enhanced Alternative Connect America Cost Model (Enhanced A-CAM) program implement such plans prior to the start of the program's support term, and that they submit their plans to USAC and certify that they have done so by the established deadline; a failure to submit the plans and make the certification will result in 25% of monthly support being withheld until the carrier comes into compliance. The Commission sought comment in the *Enhanced Alternative Connect America Cost Model Notice of Proposed Rulemaking*, 87 FR 36283 (June 16, 2022), on whether to adopt cybersecurity and supply chain risk management requirements for Enhanced A-CAM carriers or, alternatively, for all carriers receiving high-cost support, but decided to adopt cybersecurity and supply chain risk management requirements only for Enhanced A-CAM carriers in the *Enhanced A-CAM Report and Order* because the record contained sparse comment on whether to extend these requirements to other high-cost programs. In adopting this requirement for Enhanced A-CAM carriers, the Commission stated that its actions emphasize the critical importance of cybersecurity and supply chain risk management in modern broadband networks, consistent with broader initiatives across the Federal Government, and reasoned that a risk management requirement was necessary to ensure that the program does not deprive rural consumers in high-cost areas of broadband service that is as secure as the service deployed pursuant to other Federal funding initiatives. Specifically, the Commission seeks comment on whether 5G Fund support recipients should be required to implement a cybersecurity risk management plan that reflects the latest version of the NIST Framework for Improving Critical

Infrastructure Cybersecurity, and that reflects an established set of cybersecurity best practices, such as the standards and controls set forth in the Cybersecurity & Infrastructure Security Agency (CISA) Cybersecurity Cross-sector Performance Goals and Objectives or the Center for Internet Security Critical Security (CIS) Controls. The Commission also seeks comment on whether these carriers should be required to implement supply chain risk management plans that incorporate the key practices discussed in NISTIR 8276, Key Practices in Cyber Supply Chain Risk Management Observations from Industry, and related supply chain risk management guidance from NIST 800-161. Would it be appropriate for 5G Fund recipients to submit to USAC their updated cybersecurity and supply chain risk management plans within 30 days of making a substantive modification thereto, as Enhanced A-CAM recipients must? What are the differences (if any) between 5G Fund recipients and Enhanced A-CAM recipients that might warrant different approaches to ensuring cybersecurity?

X. USE OF OPEN RADIO ACCESS NETWORK TECHNOLOGIES IN 5G FUND SUPPORTED NETWORKS

53. The Commission seeks comment on whether it should use the 5G Fund to encourage the deployment of Open RAN, and if so, how. In its March 2021 *Open RAN NOI*, 86 FR 16349 (Mar. 29, 2021), the Commission sought input on whether, and if so, how, deployment of Open RAN-compliant networks could further the Commission's policy goals and statutory obligations, advance legislative priorities, and benefit American consumers by making state-of-the-art wireless broadband available faster and to more people in additional parts of the country. Soon after the *Open RAN NOI* was adopted, the President signed Executive Order 14036, E.O. 14036, 86 FR 36987 (Jul. 14, 2021), which encouraged the Commission to consider providing support for the continued development and adoption of 5G Open Radio Access Network protocols and software. The Commission has since sought comment in its *Enhanced Competition Incentive Program Further Notice of Proposed Rulemaking*, 86 FR 74024 (Dec. 29, 2021), on whether and how the Commission should factor the use of Open RAN technologies into the Enhanced Competition Incentive Program, noting that Open RAN has the potential to allow carriers to promote the security of their networks while driving innovation, in particular in next-generation technologies like 5G, lowering costs, increasing vendor diversity, and enabling more flexible network architecture.

54. The Commission considers here whether and if so, how, this 5G Fund proceeding should promote the continued deployment of Open RAN technologies in networks built with 5G Fund support. The Radio Access Network (RAN) is the portion of the wireless telecommunication system that connects user devices (e.g., mobile phones) with the core network that performs routing or delivery of content. Open RAN is a term that describes a general disaggregation of RAN functionality built using open interface specifications between elements instead of proprietary specifications. Open RAN can be implemented in vendor-neutral hardware and software-defined technology based on open interfaces and community-developed standards providing a flexible and interoperable deployment architecture across multiple vendors. As noted above, the Commission seeks comment on whether it should use the 5G Fund to encourage the deployment of Open RAN, and if so, how. The Commission also seeks comment on whether the 5G Fund could be an appropriate vehicle by which to further the goals outlined in Executive Order 14036 and if so, what the best mechanism(s) for doing so might be. For example, would deploying Open RAN networks require more time such that the Commission should afford a 5G Fund support recipient an extension of the interim and/or final service milestone deadlines if it demonstrates that it is using Open RAN in its network deployment? If the Commission does adopt such an incentive to encourage the use of Open RAN technologies, how would a support recipient demonstrate compliance with a requirement to implement those technologies, and how would the Commission measure a support recipient's continued compliance with such a requirement? Would supporting the deployment of Open RAN be consistent with the Commission's objective to efficiently and effectively distribute finite universal service support?

XI. PROMOTING DIGITAL EQUITY AND INCLUSION

55. The Commission, as part of its continuing effort to advance digital equity for all, including for people of color, persons with disabilities, persons who live in rural or Tribal areas, and others who are or have been historically underserved, marginalized, or adversely affected by persistent poverty or inequality, invites comment on any equity-related considerations and benefits (if any) that may be associated with the proposals and issues discussed herein. The term "equity" is used here consistent with Executive Order 13985, E.O. 13985 (Jan. 20, 2021), as the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that

have been denied such treatment, such as Black, Latino, and Indigenous and Native American persons, Asian Americans and Pacific Islanders and other persons of color; members of religious minorities; lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons; persons with disabilities; persons who live in rural areas; and persons otherwise adversely affected by persistent poverty or inequality. Specifically, the Commission seeks comment on how its proposals may promote or inhibit advances in diversity, equity, inclusion, and accessibility, as well the scope of the Commission's relevant legal authority to address any such issues.

XII. PROCEDURAL MATTERS

56. *Paperwork Reduction Act.* This FNPRM does not contain proposed new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, this FNPRM does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, 44 U.S.C. 3506(c)(4).

57. *Regulatory Flexibility Act.* As required by the Regulatory Flexibility Act of 1980, as amended (RFA), 5 U.S.C. 603, the Commission has prepared a Supplemental Initial Regulatory Flexibility Analysis (Supplemental IRFA) of the possible significant economic impact on a substantial number of small entities from the policies and rules proposed in the FNPRM to supplement the Commission's Regulatory Flexibility Analyses completed in the *5G Fund NPRM* and *5G Fund Report and Order*. The Commission requests written public comment on this Supplemental IRFA. Comments must be identified as responses to the Supplemental IRFA and must be filed by the deadlines for comments on the FNPRM. The Commission will send a copy of the FNPRM, including the Supplemental IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA). In addition, the FNPRM and Supplemental IRFA (or summaries thereof) will be published in the **Federal Register**.

58. The new, granular, and more accurate mobile coverage data obtained in the BDC and reflected on the Commission's new National Broadband Map allows the Commission to continue the implementation of the 5G Fund and advance its efforts to ensure the deployment of high-speed 5G service in areas of the country where, absent subsidies, it will continue to be lacking. The Commission

undertakes this effort in the FNPRM in recognition that those living, working, and travelling in unserved and underserved areas must have access to high-speed 5G service. Mobile services that may have once been considered a luxury by some have become a necessity for all Americans. The need for such services has never been more critical, yet not only are there people in many areas of the country that continue to lack access to 5G services, Americans in some rural areas still lack access to any broadband service at all.

59. In its narrowly tailored FNPRM, the Commission seeks to refresh the record and reignite the Commission's plan to expand the deployment of 5G service to those rural communities that remain trapped on the wrong side of the digital divide. The Commission seeks comment on a limited set of proposals and other issues that are critical to the 5G Fund's success, including: (1) defining the areas that will be eligible for 5G Fund support; (2) reassessing the budget for the 5G Fund; (3) potentially reconsidering the use of adjusted square kilometers as the metric for accepting bids and identifying winning bids in a 5G Fund auction; (4) aggregating areas eligible for 5G Fund support to minimum geographic areas for bidding; (5) measuring a 5G Fund support recipient's compliance with its public interest obligations and performance requirements based on any modified metric for accepting bids and identifying winning bids; (6) modifying the schedule for transitioning from mobile legacy high-cost support to 5G Fund support consistent with recent legislative amendments; (7) a proposal to require each 5G Fund Phase I auction applicant to certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements related to the support made available for bidding in the auction; (8) whether to require 5G Fund support recipients to implement cybersecurity and supply chain risk management plans; and (9) determining whether and how this proceeding might create an opportunity to support further deployment of Open RAN technologies.

60. Based on data obtained in the BDC and currently reflected on the National Broadband Map, the Commission's understanding of where mobile service remains lacking has improved significantly and it now seeks comment on whether to modify the definition of eligible areas adopted in the *5G Fund Report and Order*. Specifically, the Commission seeks comment on whether it should continue to use the definition adopted by the Commission in the *5G Fund Report and Order* to determine areas eligible for the 5G Fund Phase I auction, or whether it should modify the definition to base the determination of

eligible areas on where mobile coverage data submitted in the BDC show a lack of unsubsidized 5G broadband service by at least one service provider. Regardless of how the Commission defines the areas eligible for 5G Fund support, it proposes to use as the basis for the final eligible areas the version of the mobile availability data published on the National Broadband Map approximately 30 days prior to the start of bidding. Because the Commission seeks to direct 5G Fund support to areas where people live, work, and travel, regardless of the definition used to identify the areas eligible for the 5G Fund Phase I auction, it seeks comment on limiting eligible areas to those that contain locations and/or roads that lack unsubsidized 5G service. The Commission would then use the H3 hexagonal geospatial indexing system (H3 system) to identify specific geographic areas eligible for 5G Fund support, limiting eligible areas to resolution-9 H3 hexagons that have locations and/or roads. If the Commission were to limit eligible areas to resolution-9 H3 hexagons that have locations and/or roads, it would use a bidding and support price metric based on dollars per square kilometer for those eligible areas and seek comment on whether to use the adjustment factor as previously adopted.

61. The Commission also proposes to modify the methodologies that support recipients would use to substantiate their 5G broadband coverage certifications in the areas for which they receive 5G Fund by requiring 5G Fund support recipients to use the methodologies adopted for the BDC mobile verification process as the basis for substantiating coverage and demonstrating compliance with the 5G Fund interim and final deployment milestones. Finally, the Commission proposes to treat the release of the public notice announcing the close of the 5G Fund Phase I auction to be the point at which support under the 5G Fund commences. The Commission believes these proposals make the best use of its National Broadband Map and will facilitate its policy goals of achieving ubiquitous high-speed broadband coverage, providing rural areas with access to mobile services reasonably comparable to those provided in urban areas, and ensuring that all Americans have access to 5G service where they live, work, and travel.

62. Additionally, the Commission proposes to require each 5G Fund Phase I auction applicant to certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, and that it has familiarized itself with those procedures and any requirements related to the support made available for bidding in the auction. The Commission believes that such a certification would promote the integrity of and public confidence in the Commission's auction processes as well as

ensure that 5G Fund Phase I support recipients are aware of and better prepared to comply with their public interest obligations and performance requirements.

63. Access to high-speed, mobile services touches almost all aspects of daily life and is essential to civic, economic, and social opportunities for those living and working in rural areas as well as in big cities and suburban areas. The ability to communicate and innovate through access to high-speed, mobile broadband services is a necessity for work, education, healthcare, news and entertainment, public safety information and services, and communication during a national emergency or other crisis. Thus, the importance of expanding access to high-speed 5G services in rural communities cannot be overstated. With this in mind, the Commission issued the FNPRM cognizant that full participation in American society requires us to make 5G service available to everyone no matter where they live.

64. The legal basis for any action that may be taken pursuant to the FNPRM is authorized pursuant to sections 4(i), 214, 254, 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 214, 254, 303(r), and 403, and §§ 1.1 and 1.421 of the Commission's rules, 47 CFR 1.1 and 1.421.

65. The RFA directs agencies to provide a description of, and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules, if adopted. The RFA generally defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small governmental jurisdiction." In addition, the term "small business" has the same meaning as the term "small-business concern" under the Small Business Act. A "small-business concern" is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.

66. Regulatory Flexibility Analyses were incorporated into the *5G Fund NPRM* and *5G Fund Report and Order*. In those analyses, the Commission described in detail the small entities that might be significantly affected. In this Supplemental IRFA, the Commission hereby incorporates by reference the descriptions and estimates of the number of small entities from the previous Regulatory Flexibility Analyses in the *5G Fund NPRM* and *5G Fund Report and Order*.

67. Possible modification to some of the compliance requirements adopted in the *5G Fund Report and Order* that may be necessary based on the proposals and/or the other issues on which the

Commission seeks comment in the FNPRM could impact the reporting, recordkeeping, and other compliance requirements for small and other providers that receive 5G Fund support.

68. In the *5G Fund Report and Order*, the Commission decided that it would accept bids and identify winning bids in the 5G Fund auctions using a support price per adjusted square kilometer, and adopted interim and final service deployment milestones for small and other 5G Fund support recipients to ensure that all support recipients meet their public interest obligations and performance requirements in areas where they receive support. If the Commission decides to modify the bidding and support price metric for the 5G Fund auctions to use a metric other than square kilometers and makes corresponding modifications to the rules adopted in the *5G Fund Report and Order* concerning the metric that would be used to measure a 5G Fund support recipient's compliance with its public interest obligations and performance requirements, small and other providers that receive 5G Fund support will be required to use a different metric than what was adopted in the *5G Fund Report and Order* for purposes of measuring and reporting compliance with the 5G Fund public interest obligations and performance requirements.

69. The Commission decided to generally align the framework for 5G Fund support recipients' demonstration of compliance with their 5G Fund interim and final performance requirement milestones with the BDC in the *5G Fund Report and Order*, concluding that standardizing the data required for compliance reporting was likely to ease the burden on support recipients throughout universal service programs, while collecting sufficient data to confirm that the 5G Fund's requirements have been met. With respect to the methodologies for conducting on-the-ground tests, the Commission decided in the *5G Fund Report and Order* that a 5G Fund support recipient must submit on-the-ground measurement tests with at least three tests conducted per square kilometer, measured by overlaying a uniform grid of one square kilometer (1 km by 1 km) on its submitted 5G coverage maps within the area for which 5G Fund support was awarded in a percentage of all drive-testable grid cells where the recipient reports deployment of 5G service by the applicable service deployment milestone. The minimum percentage of drive-testable grid cells tested must equal the minimum percentage of coverage required for each service buildout milestone (i.e., 40%, 60%, 80%, 85%). In the FNPRM, the Commission proposes to modify the methodologies that support recipients would use to substantiate their 5G broadband coverage certifications in the areas for which they receive 5G Fund support in order to be consistent with both its

proposal to use hexagonal areas as the basis for the areas eligible for 5G Fund support and the Commission's decision in the *5G Fund Report and Order* to generally align the framework for demonstrating compliance with 5G Fund performance requirement milestones with the BDC. If this proposal is adopted, small and other providers that receive 5G Fund support will be required to use different methodologies than were adopted in the *5G Fund Report and Order* for purposes of demonstrating compliance.

70. The FNPRM also seeks comment on whether to adopt a requirement that each 5G Fund support recipient implement cybersecurity risk management and supply-chain risk management plans as a condition of receiving 5G Fund support, similar to the requirement adopted for the Enhanced Alternative Connect America Cost Model program. In that program, support recipients are required to implement such plans prior to the start of the program's support term, and to submit the plans to the USAC and certify that they have done so.

71. In assessing the cost of compliance for small entities, at this time the Commission is not in a position to determine whether small entities will be required to hire professionals, and cannot quantify the cost of compliance with its proposals related to the above-described possible modifications to the metric and methodologies for demonstrating and reporting compliance with the 5G Fund public interest obligations and performance requirements. The Commission anticipates, however, that the comments it receives will discuss any potential changes to compliance costs and/or administrative burdens for small entities, and may help the Commission identify and evaluate other relevant issues for small entities associated with the matters discussed in the FNPRM.

72. The FNPRM also seeks comment on a proposal to add to the existing certifications that are required under the Commission's competitive bidding rules a requirement that each applicant in the 5G Fund Phase I auction certify, under penalty of perjury, that it has read the public notice adopting procedures for the auction, which will be released in advance of the auction's short-form deadline, and it has familiarized itself both with the auction procedures and with any requirements related to the authorizations or support made available for bidding in the auction. Consistent with other certifications required in an auction application, a failure to make these certifications would render an application unacceptable for filing, and the applicant will not be found qualified to bid.

73. Typically, the auction procedures inform prospective applicants that they should familiarize themselves with the Commission's general competitive bidding rules, Commission decisions regarding competitive bidding procedures, application requirements, obligations of Commission licensees, construction permit holders, and support recipients, and the Commission's service rules for the frequency band available in the auction or for construction permits or universal service support, and that they must be thoroughly familiar with the procedures, terms, and conditions contained in the public notice adopting procedures for the auction. The Commission therefore does not expect that the certification requirement proposed in this FNPRM will increase the need for small entities to hire attorneys, engineers, consultants, or other professionals because it does not increase the level of education or due diligence beyond what was required of applicants prior to the adoption of the certification requirement, and thus it should not increase an applicant's burden in complying with the additional certification requirement. Additional public notices adopting the procedures for any auction will be released before the auction's short-form filing deadline and made publicly available on each auction's web page. The Commission believes that this is sufficient to ensure that applicants in each auction can certify truthfully that they have read the auction procedures and familiarized themselves with the relevant rules and requirements.

74. The RFA requires an agency to describe any significant, specifically small business, alternatives that it has considered in reaching its proposed approach, which may include (among others) the following four alternatives: (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance or reporting requirements under the rule for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.

75. The Commission believes that the proposed modification to the metric for measuring compliance that may be necessary depending on the metric that it will use to accept bids and identify winning bids will also benefit small entities as corresponding changes to the metric that will be used to measure compliance will ensure that small entities would not be required to undertake separate analyses to determine how, and where they wish to bid, to identify the areas for which they are awarded support, and to measure and report compliance with their public interest obligations.

76. In the FNPRM, an alternative the Commission considered to its proposal to use dollars per square kilometer as the bidding and support price metric, which it seeks comment on, is whether to adopt an alternative approach that would provide some advantage to particularly costly areas that nonetheless are areas with a considerable number of homes, businesses, and other locations, and/or roads that are frequently travelled. The Commission inquires whether parameters for such an alternative approach could be determined without unduly delaying the auction. Another alternative considered is to use a bidding and support price metric based on the number of locations in the eligible areas. Additionally, the Commission seeks comment on potentially incorporating the number of unserved road miles in an area, as well as the number of locations, into the bidding and support price metric. The Commission inquires whether there is an approach that would appropriately balance unserved road miles and unserved locations in a single metric. For example, the Commission asks whether it could adjust the number of locations upward by a fraction, e.g., 25%, in an area with a moderate number of unserved road miles, and by a larger fraction, e.g., 40%, if the area has a large number of unserved road miles, or whether a metric that is a weighted sum of unserved locations and unserved road miles would be appropriate, such as a metric that is the total of the number of unserved locations and one half of the number of unserved road miles. The Commission also considered and seeks comment on a possible metric based on predicted usage from serving eligible areas. This metric would consider all measurable factors that can affect mobile usage, such as unserved locations, road miles, and areas with parks or wilderness where devices are likely to be used. Possible options the Commission raises for discussion to measure usage are using the average number of connected 5G devices in 15-minute periods throughout the day or the total megabytes of data usage during a reporting period.

77. The discussion of the approach the Commission should take to harmonize the metric it uses to measure a 5G Fund support recipient's compliance with its public interest obligations and performance requirements should the Commission decide to modify the bidding and support price metric adopted in the *5G Fund Report and Order* looked at two potential options upon which the FNPRM seeks comment. If the Commission was to use a locations-based metric without a road miles component, it would measure compliance based on a support recipient deploying service that meets the 5G Fund performance requirements to a specified percentage of the total locations within the eligible areas for which it is

authorized to receive 5G Fund support in a state by the relevant interim service milestone and the final service milestone. Alternatively, if the Commission was to use a hybrid metric that incorporates locations and road miles, it would measure compliance based on a support recipient deploying service that meets the 5G Fund performance requirements to a specified percentage of the total unserved locations and a specified percentage of the total unserved road miles within the eligible areas for which it is authorized to receive 5G Fund support in a state by the relevant interim service milestone and the final service milestone.

78. With respect to the proposed certification requirement for short-form auction applications, the Commission has taken steps to minimize any economic impact of the certification requirement on small entities through the many free resources the Commission provides to potential auction participants. The public notice adopting the procedures for each auction will be posted to the auction's website prior to the opening of the application window, and other relevant orders are available through EDOCS, the Commission's online document database (www.fcc.gov/edocs). The Commission believes that reading these materials will be sufficient for applicants to certify that they have familiarized themselves with the relevant auction procedures and other requirements. The Commission also makes available additional educational materials to help potential auction participants understand the auction process, including short-form filing instructions and a tutorial. The Commission makes this information publicly available and easily accessible and without charge to benefit all potential auction applicants, including small entities, thereby lowering their administrative costs to comply with the Commission's competitive bidding rules.

79. Small entities and other auction participants also may seek clarification of, or guidance regarding, auction procedures, the competitive bidding rules, and any requirements related to the authorizations or support to be made available through the auction from Commission staff prior to the auction's application window. Additionally, an FCC Auctions Hotline provides small entities one-on-one access to Commission staff for information about the auction process and procedures. The FCC Auctions Technical Support Hotline is another resource that provides technical assistance to applicants, including small entities, on issues such as access to or navigation within the electronic short-form application and use of the bidding system.

80. Additionally, in the FNPRM the Commission also considered and seeks comment whether, and to what extent, if any, it can or should use the 5G Fund to encourage the deployment of Open RAN, and if so, how. The Commission considered, as an example, whether deploying Open RAN networks requires more time such that it should afford a 5G Fund support recipient an extension of the interim and/or final service milestone deadlines if it demonstrates that it is using Open RAN in its network deployment. This approach could benefit small providers by allowing them the flexibility to choose an option that may provide an extension of compliance deadlines.

81. The issues on which the Commission seeks comment in the FNPRM are designed to ensure the Commission has a complete understanding of the costs, benefits, and potential burdens associated with the different actions and methods. The Commission seeks to continue to learn from the experience of small entities so that it can balance its responsibility to monitor the use of universal service funds with minimizing administrative and compliance costs and burdens on 5G Fund participants. The Commission expects to more fully consider the economic impact on small entities, as identified in comments filed in response to the FNPRM and this Supplemental IRFA, in reaching its final conclusions and taking final action in this proceeding.

82. There are no Federal rules that duplicate, overlap, or conflict with the rules proposed herein.

83. *Ex Parte Rules - Permit-But-Disclose.* This proceeding shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s *ex parte* rules. Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter’s written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given

to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b), 47 CFR 1.1206(b). In proceedings governed by rule 1.49(f), 47 CFR 1.49(f), or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission's *ex parte* rules.

XIII. Ordering Clauses

84. Accordingly, IT IS ORDERED, pursuant to the authority contained in sections 4(i), 214, 254, 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 214, 254, 303(r), and 403, and §§ 1.1 and 1.421 of the Commission's rules, 47 CFR 1.1 and 1.421, that this Further Notice of Proposed Rulemaking IS ADOPTED.

85. IT IS FURTHER ORDERED that, pursuant to the authority contained in sections 4(i), 214, 254, 303(r), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. 154(i), 214, 254, 303(r), and 403, and §§ 1.1 and 1.421 of the Commission's rules, 47 CFR 1.1 and 1.421, NOTICE IS HEREBY GIVEN of the proposals described in this Further Notice of Proposed Rulemaking.

86. IT IS FURTHER ORDERED that, pursuant to applicable procedures set forth in §§1.415 and 1.419 of the Commission's rules, 47 CFR 1.415, 1.419, interested parties may file comments on the Further Notice of Proposed Rulemaking in the captioned docket on or before the date shown on the first page of this document, and reply comments on or before the date shown on the first page of this document.

87. IT IS FURTHER ORDERED that the Office of the Secretary, Reference Information Center, SHALL SEND a copy of this Further Notice of Proposed Rulemaking, including the Supplemental Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

Federal Communications Commission.

Marlene Dortch,

Secretary.

